JOHN SPELLMAN
Governor

Publication No. 82-e04

WA-47-9020

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Mail Stop PV-11 • Olympia, Washington 98504 • (206) 459-6000

M E M O R A N D U M

May 12, 1982

TO: Dick Cunningham

FROM: C. J. Carelli

Attached are the results of the initial monitoring one day survey of Lake Chelan. This was completed on February 24, 1982. The results of the survey,as we expected, shows excellent water quality in Lake Chelan.

R. W. Beck has suggested and received Chelan County concurrance to revise the project scope of work. A description of the proposed changes are included in the attached. Please review and give me any comments you may have before May 20, 1982.

If you have any questions, please call me.

CJC:dh

Attachment

R. W. BECK AND ASSOCIATES

ENGINEERS AND CONSULTANTS

PLANNING
DESIGN
RATES
ENVIRONMENTAL
ECONOMICS
MANAGEMENT

TOWER BUILDING
7TH AVENUE AT OLIVE WAY
SEATTLE, WASHINGTON 98101
206-622-5000

GENERAL OFFICE
SEATTLE, WASHINGTON
206-622-5000

FILE NO. UU-1274-WS1-AA

May 3, 1982

Mr. Charles Carelli
Chief, Water Quality Planning
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504

Dear Mr. Carelli:

Subject: Lake Chelan "208" Study

As we discussed on the phone today, I am sending you copies of our correspondence with Chelan County concerning results of the initial sampling and proposed changes in the scope of work. No additional costs would be incurred.

Please take the steps needed for DOE approval of these changes. If you have any questions, please call.

Very truly yours,

R. W. BECK AND ASSOCIATES

Sylvia E Burges

Sylvia E. Burges
Supervising Environmental Analyst

SEB/cgo

PROJECT WW-1274-W151

FILE 3023

BOARD OF COMMISSIONERS
CHELAN COUNTY
STATE OF WASHINGTON
WENATCHEE, WASHINGTON 98801
TELEPHONE 509/663-4803

April 27, 1982

Lee Fortier
R. W. Beck & Assoc.
Tower Building
7th Avenue & Olive Way
Seattle, Wash. 98101

Dear Lee:

In response to your letter concerning the Lake Chelan Water Quality Study Task III Sampling Design, we accept your recommendation based on the input of the Advisory Committee. We assume that the sampling program will now be modified to include:

1. A four day survey from July 6 through July 9.
2. A four day survey from Sept. 7 through Sept. 10.
3. One storm (in addition to that on 3/1/82).
4. Toxicants sampling on agricultural drainage in adjacent water.
5. Dye test study on the South Shore sewerage system during July survey.

We would ask that you proceed to request the appropriate contract amendments with the Washington State Department of Ecology and at such time as the contract amendments are complete, they will be forwarded for our consideration.

RECEIVED
APR 30 1982
R W BECK and ASSOC
Seattle, Wash

Very truly yours,

Thomas A. Green, Chairman
BOARD OF CHELAN COUNTY COMMISSIONERS

TAG:lb

R. W. BECK AND ASSOCIATES

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FILE NO. UU-1274-WS1-AA
3023

April 8, 1982

Board of Commissioners
Chelan County
Chelan County Courthouse
Wenatchee, Washington 98801

Attention: Mr. James L. Young, Chairman

Gentlemen:

Subject: Lake Chelan "208" Study
Task III: Sampling Design

The first one-day survey of Lake Chelan was completed on February 24, 1982. Results of that survey (see Table 1) show excellent water quality - low algal nutrient concentrations, high water clarity, no bacterial problems. These results indicate that, as suggested in the Task 2 data evaluation report, additional intensive sampling during the summer (when bacterial problems and algal growth are most likely to be present) would provide much more useful data on the condition of the lake. We have discussed these findings with the Advisory Committee, and have included their input.

We suggest that the sampling program be modified to include:

1. A 4-day survey from July 6 through July 9
2. A 4-day survey from September 7 through September 10
3. One storm (in addition to that on 3/1/82)
4. Toxicants sampling on agricultural drainage and adjacent water
5. Dye test study on the South Shore sewerage system during July survey

The first 4-day survey will include coliform sampling at all lake sites and determination of secchi depth, vertical temperature and dissolved

oxygen profiles at all stations each day. Chlorophyl a samples will be composites of 5 to 6 depths in the epilimnion when feasible; samples will be collected at all stations on one day and at the 3 mid-channel stations (1, 5, and 7) on 3 days. Nutrient samples will be analyzed for nitrite/nitrate-nitrogen, Kjeldahl nitrogen, and total phosphorus. Surface samples will be taken at all stations on day 1; vertical profiles will be made at all mid-channel stations on the remaining days. Fecal coliform samples will be collected each day from all lake stations, above the 6 raw water intakes, and (if time permits) up to ten additional stations in the Wapato basin.

The second survey will be similar except that dye testing will not be repeated. Results from first survey may lead to modifications in this survey.

Sampling for priority pollutant analysis will be carried out by Marvin Jeffries, Lake Chelan Reclamation District, in mid-April and July or August. Three agricultural drains and 2 adjacent Lake Chelan (receiving water) locations will be sampled. Pesticide/herbicide determinations will be made for all samples. Metals analysis will be performed on receiving water samples.

We would appreciate it if you would notify the Sheriff's Department of this change and we will talk with you later about arrangements for a boat during the intensive surveys.

With your permission, we will request DOE approval of these changes. If you have any questions, please call.

Very truly yours,

R. W. BECK AND ASSOCIATES

Lee Fortier
Executive Engineer

LF:lkb

Attachments

TABLE 1

LAKE CHELAN WATER SAMPLING RESULTS
(February 24, 1982)

Parameter	Station 1	2	3	4	5	6	7	8	9	10	11	12
Nitrate and Nitrite as N (Ug/l)	61	34	1,220*		78		50			70		
Total Phosphate ... as P (Ug/l)	5	5	5		5		5			5		
Total Coliform .... MPN/100 ml	3	3	3	3	3	3	3	3	3	3	3	3
Dissolved Oxygen ..	11.7	11.5	11.6	11.6	11.7	11.9	11.7	12.1	12.3	11.9	12.0	12.0
Temperature ^{o}C	6	6	6	5.5	5	5	5.5	5	5	5	5	5.5
pH	7.4	7.4	7.2	7.2	7.2	7.2	7.3	7.1	7.3	7.1	7.1	7.4
Conductivity	32	29	30	30	30	37	36	38	75	78	72	60
Secchi Depth	50	50	50	50	50	**	50	**	**	**	**	**
Depth	340	50	100	65	200	7		18	7	11	20	33

* High value may indicate contaminated sample.
** Bottom visible.